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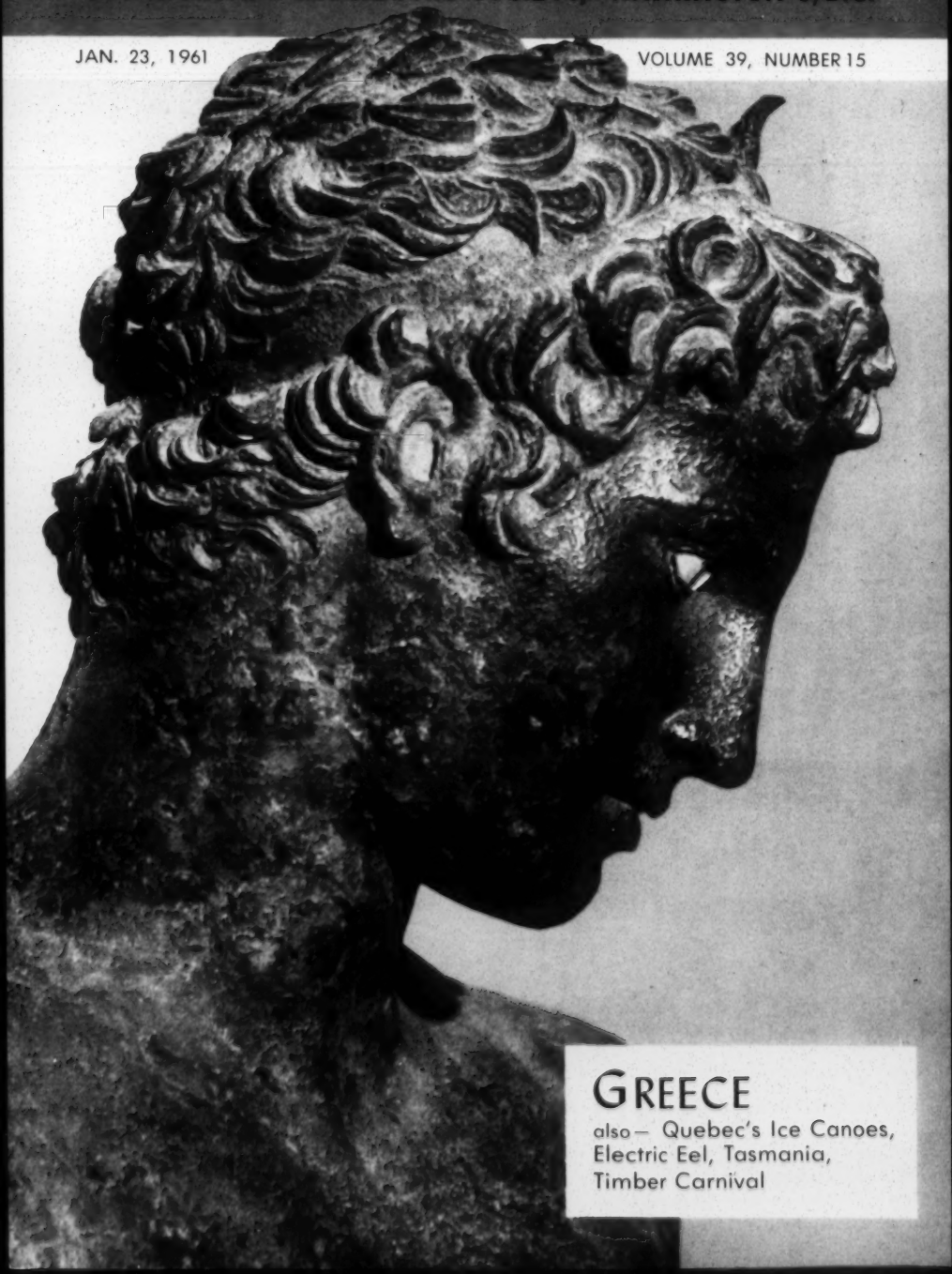

GREECE

also— Quebec's Ice Canoes, Electric Eel, Tasmania, Timber Carnival

UMI

Rome father and mother, but the child has now outstripped its parents.

Ancient Greece included the Balkan Peninsula south of Macedonia and nearby islands in the Aegean and Ionian Seas: some 30,000 square miles, or a little less than Maine. Its story began when blond emigrants from the Danube region filtered into the peninsula, about 2,000 B.C., to mingle with the dark Mediterranean stock. Its life ended when the Romans overran it in 197 B.C.

The farmer in ancient Hellas lived as rugged a life as his counterpart today. Mountains blanket most of the country. The Greeks say it was formed from a handful of stones left over after the rest of the world had been fashioned. This hard land is incapable of feeding flocks and herds on a large scale, and meat was—and still is—a luxury, eaten only on festival days. Sheep provided wool; goats gave milk and cheese. Olive oil provided food and lamplight. The farm woman of Thrace at right tests oil-yielding sunflower seeds for ripeness. Honey served as sugar and hill-climbing vineyards provided grapes for a sour wine. Meager crops of barley made bread.

But this very poverty in the homeland sent the ancient Greeks abroad to build an empire.

Land hunger pushed Greek colonists to Italy, North Africa, Turkey, France. The Mediterranean and Black Seas became largely Greek, from the Crimea to the Pillars of Hercules.

JEAN AND FRANC SHOR, NATIONAL GEOGRAPHIC STAFF, ABOVE AND COVER

Greek cities plucked the wealth of their colonies and grew rich. Into Athens poured the products of the known world: grain, fish, meats, wine, cheese, fruit, iron, copper, timber, ivory, hides, wool, flax, papyrus, tiles, beds, carpets, fine textiles, boots, bronzes, and perfumes.

Wealth bred art, science, and political advances. The world's first great playwrights, historians, orators, philosophers, and poets were Greek. The work of ancient Greek sculptors remains unrivaled today.

UMI

GREECE . . . *Yesterday and Today*

PHOTOGRAPHS BY DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

WHEN THE ANCIENT GREEKS woke up in the morning, they went to their doors, looked up at the dawn, and blew a kiss to Apollo, the sun god.

In Corinth, richest port in the eastern Mediterranean, they built a fine temple to the deity whose radiance could nourish crops or kill a man with sunstroke. Today the banks and warehouses of this wealthy city have vanished. Tall, dry grass and tumbled stones replace them. Only the seven squat pillars of Apollo's temple, (upper left) recall the power that was Greece.

Other gods rule over the cities of modern Greece. A priest of the Eastern Orthodox Church (lower left) looks out over Salonika, port city on the Gulf of Salonika, a leading industrial center which turns out tobacco, soap, leather goods, textiles, flour, and ships. But neither Salonika, nor Athens, nor Piraeus of today can rival the splendor of ancient Athens or Sparta or Corinth. The whole of the Western world calls Greece and

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An example, "Youth of Marathon," on the cover, now rests in the National Museum in Athens. The Greeks were the first to organize the sciences of botany, geometry, medicine, physics, and zoology. But their greatest gift to the world was democracy—the idea that every citizen should take an active part in government.

The mountains that forced Greeks to build an empire also helped to destroy their civilization.

Steep ranges made it easier to sail from Greece to Turkey than to ride a donkey from Athens in the south to Pharsalus in the north. Isolated, each large settlement and surrounding villages banded together into city-state units. The city-state was about the size of a modern city, but as independent as a modern nation. Each had its own gods, laws, and government.

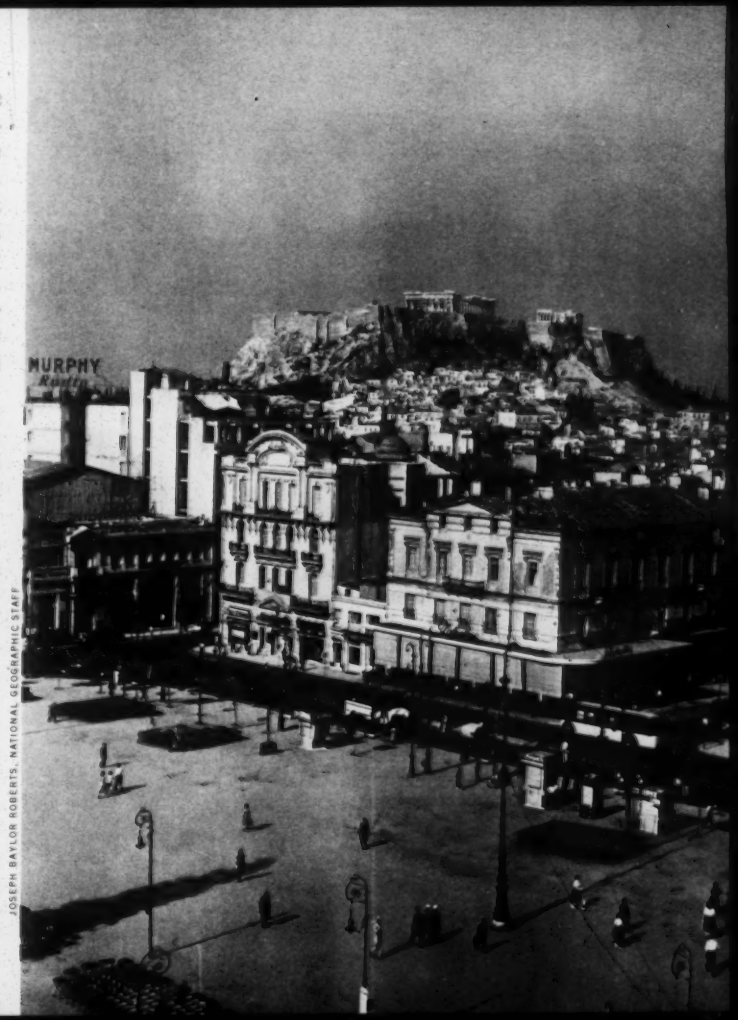
The city-states warred on each other, spurred by commercial rivalries, and weakened themselves until the country was ripe for foreign invasion. First came the Macedonians, Greece's northern neighbors, then the Romans, and finally the Turks. Greece remained a conquered nation until 1822. Then the Greeks declared their independence from Turkey and spent the next eight years fighting for it. Though a free nation since 1830, Greece, stripped of its colonies, beset by wars and internal conflicts, never regained its splendor.

The mountains still bar the farmer from growing anything but the bare necessities. Few roads push around these ranges.

Industry and its partner, the city, are scarce and small. The country has little of the iron and none of the petroleum that build a nation of humming factories. Some cotton provides it with a textile industry. But the land exists on an economically-lopsided trade that brings in large quantities of grain and clothing but sends out a smaller amount of olive oil, figs, tobacco, cheese, currants.

Only scattered ruins tell the story of a great civilization. Modern Athenians go to work across Constitution Square, right. Above them on the Acropolis stand the marble remains of the Parthenon and other temples to gods long dead.

L.B.



JOSEPH BAYLOR ROBERTS, NATIONAL GEOGRAPHIC STAFF

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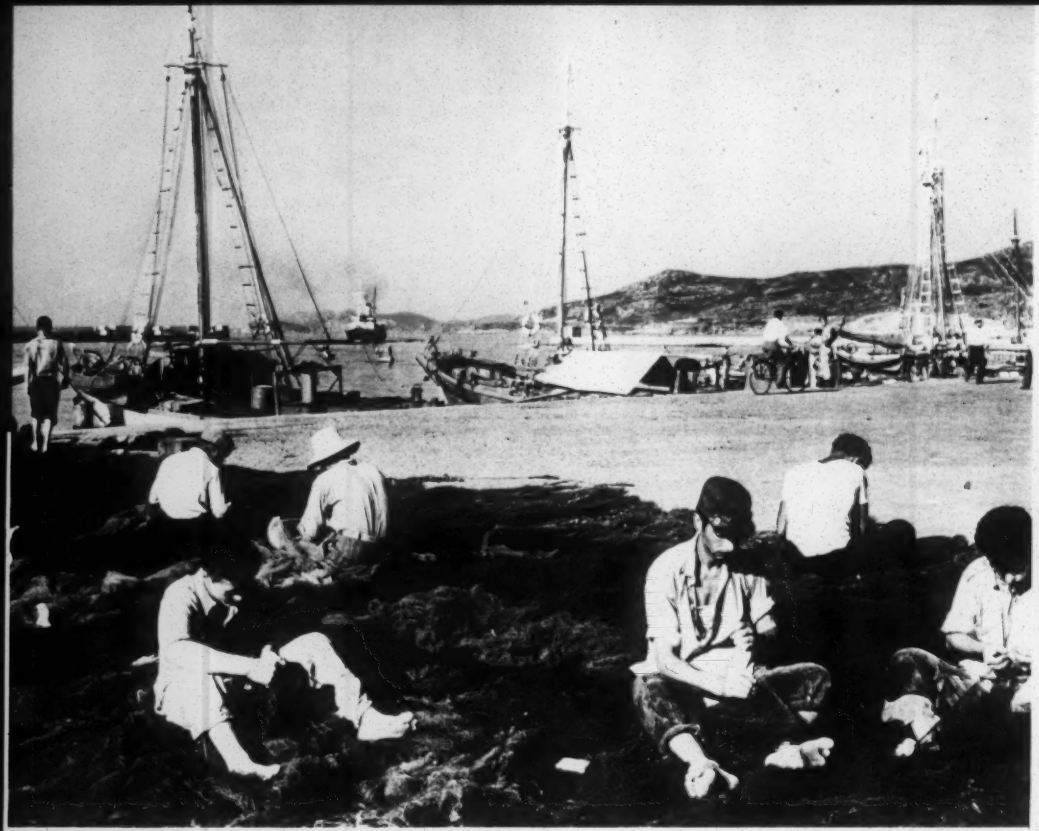


DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

Fishermen in Kavalla mend their nets at the quayside. Similar scenes take place every day along the 2,500-mile-long coast of the Greek mainland and on the more than 200 Greek islands. Greeks substitute fish for the meat they cannot produce. Ship in background carries out tobacco.

In the shadow of Mount Olympus, home of the ancient gods, a baker of Salonika, his week of kneading bread finished, cooks Sunday dinner for neighbors who have no ovens. The fare would make anyone's mouth water: lamb, zucchini, potatoes, onions, fish, meatballs. Here he explains to a youngster that he must keep his claim-check for his meal.

NEW YORK ZOOLOGICAL SOCIETY

The shocking tale of the . . .

Electric Eel

This South American fish wields one of nature's strangest weapons— 600 volts of electricity

THE ELECTRIC EEL isn't an eel—but it certainly is electric.

The rear four-fifths of its smooth, scaleless body is composed chiefly of cells that generate electricity. These are muscle cells adapted to producing current—although science still does not know how it is done.

The "eel" can produce up to 600 volts—more current than a battery of equal size. It is strong enough to fell a horse or stun a fisherman who incautiously wanders into the streams or swamps of South America. The people of the Amazon and Orinoco regions fear it greatly.

A full-grown specimen may reach nine feet in length, and be as thick as a man's leg. Not a true eel, it is related to the carp.

The eel apparently controls at will the charge it uses against an enemy. The shock can come from various parts of the thick tail, or travel the entire length from aft forward. The current moves 12 to 15 times faster than human nerve impulses.

Maximum power is developed when the fish touches the victim's body with head and tail at the same time.

The explorer Alexander von Humboldt, traveling on the upland *llanos* of Venezuela in 1800, watched natives driving wild horses into shallow swamps to absorb the shocks of electric eels.

Although the fish can produce current for long periods without tiring, they eventually "run down." When the eels' power was exhausted, the Indians caught and ate them, according to Humboldt.

Electric potential exists in several unrelated fish, including the electric catfish of the Nile and other African rivers. Hieroglyphics prove they were known to the early Egyptians. Plato, the Greek philosopher, wrote of the torpedo fish, an electric ray common in the eastern Mediterranean Sea.

At least 15 varieties of electric rays swim in Atlantic and Pacific waters. They can send current through metal harpoon shafts or wet fishlines.

Old World medical history shows that electric fish were used long ago to treat human ailments. Torpedo rays were employed by Roman physicians as shock treatment for gout and headaches. Moslem doctors treated epileptics in the same way.

UMI

A racing team catapults to a flying start. A misstep would land these sprinting boatmen in frigid water. Leaving a floe, those in the bow are paddling before the last man leaps in. Approaching ice from the water, the back paddlers keep driving while the front men jump out.

Braving the St. Lawrence in Ice Canoes

TO CROSS WATER you use a boat; to cross ice you use a sled—but what do you do when you must cross both?

You combine the two, and get a versatile craft called the ice canoe. This child of necessity was born beside the St. Lawrence River near Quebec. During the winter ice floes clog the river between the mainland and scattered islands. Ordinary water transport is impossible. But doctors, priests, mail, and supplies must get through, so the hardy islanders devised this special boat.

A steel or aluminum band covers the keel from bow to stern. It acts as a runner, allowing the crew to drive the boat up and over the edge of an ice floe, leap out and slide it to the next patch of clear water.

NATIONAL GEOGRAPHIC PHOTOGRAPHER KATHLEEN REVIS

Ice canoe races are a high light of Quebec's Winter Carnival. Five-man crews pit strength, stamina, and agility against the St. Lawrence. With aching muscles and lungs in agony, each team must sprint while dragging the boat, paddle through bobbing ice cakes, and vault in and out of the canoe at critical moments—often in the face of bitter wind and strong tides.

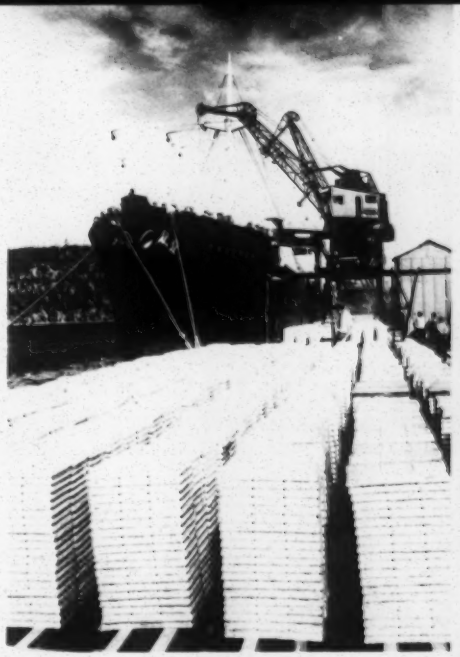
was not a lucky explorer, for in locating the island he managed to miss the entire continent of Australia—even though he sailed completely around it.

Settlement began in 1804, when the British established a penal colony. Convicts who survived the three-month sailing voyage were put to work building prisons and administrative buildings, the remains of which lie mellowing in the southern sun today while around them bustles a thriving people, descendants of both convicts and ordinary immigrants.

Sheep were the first basis of a lasting economy. Fine Merino wool was shipped to the looms of Britain, and vast estates grew up to pasture the animals. Today a year's crop brings about $21,000,000 for 30 million pounds of wool.

Second in export value to wool, the apple crop averages five million bushels. First to plant apples in Tasmania was Capt. William Bligh, better known for bringing the breadfruit to the West Indies and for surviving the world's most famous mutiny.

Although agriculture thrives, more Tasmanians today work in factories than on the land. Heavy rainfall on the high central plateau offers electric power when wrung through turbines at installations like that at Tarraleah, right. Cheap power has lured industries from the mainland and even farther away. Paper and textile mills, copper and brass makers, an aluminum smelter and a carbide works are changing the looks and trade of the island. Above, slabs of zinc await shipment from Risdon.



With further mineral riches believed locked in the unexplored areas, Tasmania has sound hopes of becoming even more prosperous.

F. S.

UMI

Tasmania AUSTRALIA'S THRIVING ISLAND STATE

DANGLING LIKE an emerald pendant from the southeast tip of Australia, the island of Tasmania is about as far from Great Britain as one can travel.

Yet its countryside reminds Englishmen of home—fields are fringed with elms, oaks, poplars, and willows, hawthorn hedgerows and golden daffodils, all as English as Wordsworth. Hops harvested here (right) are dried in traditional brick oast houses near white stone farm cottages.

The effect is not accidental. British settlers kept to many of the ways of the mother country, imported their favorite plants, which thrive in a climate that suggests their home.

Photographs by Howell Walker, National Geographic Staff

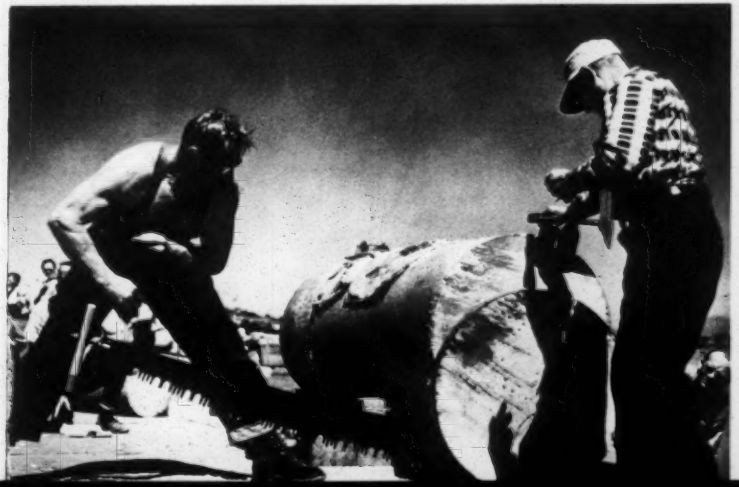
If the northern half of Florida should sink beneath the sea, the southern portion, becoming an island, would stand in relation to the United States mainland as Tasmania does to Australia—and would be about the same size.

In contrast to flat Florida, however, Tasmania is mountainous—so rugged in places that a third of its area remains unexplored after a century and a half of settlement.

The island was discovered by a Dutchman, Abel Tasman, in 1642. Tasman named it Van Diemen's Land, after the man who had sent him out on his voyage. The name lasted until 1853, when it was changed to honor the discoverer. Tasman

At far right a human squirrel demonstrates how old-timers climbed a spar. Chopping notches to hold his springboards, this 67-year-old works his precarious way up. Today safety straps protect the men who make tree topping a profession.

Begun in 1941, interrupted by World War II, and resumed in 1946, the Albany Timber Carnival is now an annual affair. The whole city—some 13,000 people—enjoys it. A 65-acre park, Timber-Linn (for Linn County), was built to hold it. The Timber Queen and her court of princesses reign during the carnival. Lumberjack breakfasts—all you can eat for $1.25—kick off each of the three days.



Parades of flower-laden floats and lumber-laden trucks fill the streets. Square dancers do-si-do in Albany High School and on Broadalbin Street. Baseball games, parachute jumps, and fireworks displays thrill the 150,000 spectators.

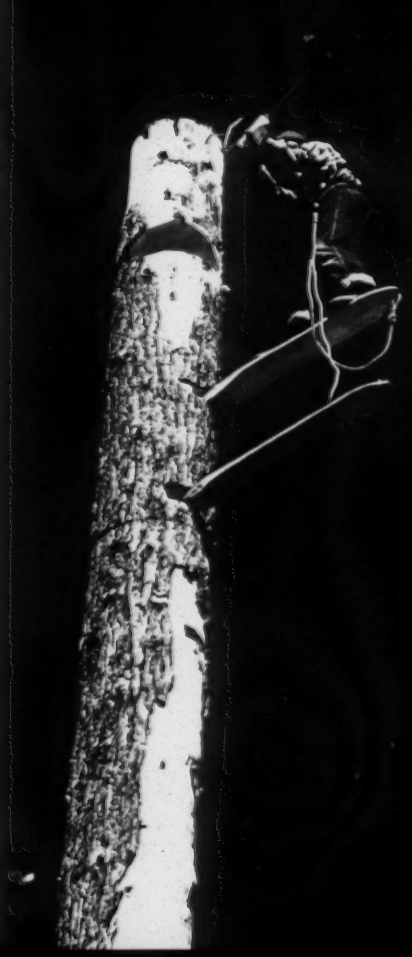
A street is blocked off for go-cart races, logging exhibitions, bagpipe concerts, and stage shows. Picnickers lunch on the Linn County Courthouse grounds.

But the carnival is more than just a rollicking good time. It is a salute to the lumber industry and the men who work in it.

One of the oldest industries in the nation, lumbering began as settlers felled trees to build log cabins and forts on the eastern shore of the United States.

Pushing west, the pioneers chopped their way to the prairies, then through the mountains to the Pacific. The ax and the saw were as vital as the gun.

America's timber industry followed westward migration. Established in New England, it jumped to Pennsylvania, then to Michigan and Wisconsin, then the Northwest.



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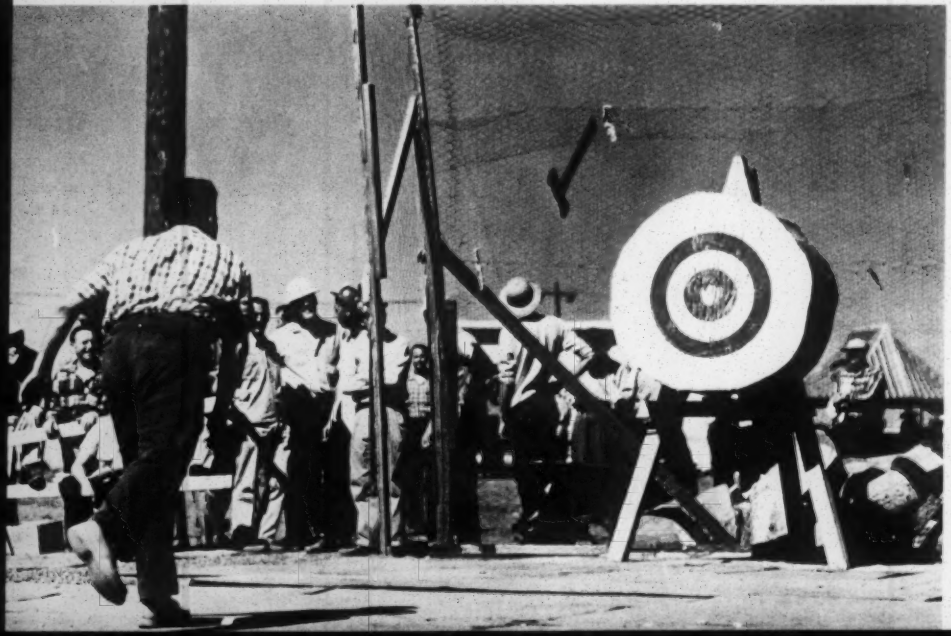
Oregon's Lumberjack Olympics

WHAT THE RODEO is to the cowboy, the timber carnival is to the logger—a chance to show off professional skills. Timbermen compete in ax throwing, log chopping, tree topping, log bucking, and log rolling. They generate as many thrills and spills as the rollicking events of a cowboys' stampede.

Each year Albany, Oregon, hub of the lumber industry in the Willamette Valley, puts on a Fourth of July spectacular that attracts burly lumbermen from as near as next door and as far as Canada and Connecticut.



Photographs by Kathleen Revis, National Geographic Photographer

In a Paul Bunyan-style dart game, the brawny contestant at left throws a 2½ pound ax at a four-inch bull's-eye from 20 feet—showing today's rifle-carrying hunters how woodsmen once hunted rabbits.

Slashing huge chunks of wood from a 14-inch log with every stroke of his mighty arms, the timberman above chops his way through in less than a minute.

The log bucker at right drops his handsaw as a slab falls from a 30-inch timber. No lumberjack worth his salt needs two minutes for the job.

Cities in Oregon and Washington grew around sawmills. Seattle, Tacoma, and Longview owe their lives to good timber harvests. Even those towns that developed out of farming and dairying, cattle-grazing or power plants, attribute much of their prosperity to modern sawmills.

Part of the Timber Carnival is dedicated to promoting the use of wood and enhancing the lumber economy of the Northwest. Future carnival plans include a permanent museum to house displays of wood products and machinery used in the timber industry. L.B.

Feet and Spray Fly in the Lumberman's Cakewalk

Going . . . going . . . splash!—With the balance of flagpole sitters and the expert footwork of professional boxers, lumberjacks spin logs faster than the eye can follow. Last dry man wins.

The sport of logrolling began seriously among log jams that clog streams floating timber to mills. When the logs pile up, someone must walk out and untangle them.

UMI